UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,017	01/20/2004	Kaiji Nonaka	9281-4750	3123

7590 12/20/2006

Brinks Hofer Gilson & Lione
P.O. Box 10395
Chicago, IL 60610

EXAMINER	
WANG, JIN CHENG	
ART UNIT	PAPER NUMBER
2628	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/20/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/761,017	NONAKA, KAIJI	
	Examiner	Art Unit	
	Jin-Cheng Wang	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's submission filed on 11/20/2006 has been entered. No claim has been amended. The originally filed claims 1-6 are pending in the application.

Response to Arguments

Applicant's arguments filed November 20, 2006 have been fully considered but are not found persuasive in view of the ground(s) of rejection of the claims 1-3 based on Rosenberg U.S. Patent No. 5,825,308 (hereinafter Rosenberg) and the claims 4-6 based on Rosenberg U.S. Patent No. 5,825,308 (hereinafter Rosenberg) in view of Watanabe et al. U.S. Patent No. 6,285,347 (hereinafter Watanabe).

Applicant argues with respect to the §112 rejection on Page 4 of Remarks that "At least page 15 of the originally filed patent document recites '(2) Calculation of the deviation between direction of the destination position B as seen from the reference point A and the direction of the destination position B as seen from the reference point A and the direction of manipulation of the manipulation unit 22." From applicant's specification Page 15-16, the direction of the destination position B as seen from the reference point A is identical to the direction of manipulation of the manipulation unit 22 (See Fig. 5A). This is how the manipulation force is made in relation to where the scrolling should occur. Moreover, there is no support in the specification for an **angle** deviation. Applicant failed to point out where in the specification has disclosed the term "angle deviation", whereas "deviation" is claimed. However, only distance deviation is disclosed in the specification. The calculation unit 42 performs the three steps as disclosed in Page 15 and

illustrated in Fig. 5A whereas the applicant's specification continued on Page 15, "Fig. 5A is a graph illustrating the relationship between **the amount of deviation** obtained through the above calculations and the actuator driving signals." Even through a cursory reading of the Page 15-16, one would understand that the deviation as disclosed/claimed is only related to the distance deviation, as opposed to applicant's mis-interpretation of an angle deviation. There is no angle deviation involved. It is clear from the applicant's specification that only the distance deviation is disclosed. There is no angle deviation whatsoever is disclosed.

Applicant argues that a control unit that calculates a deviation of an **angle** between two directions with respect to a reference point. However, this argument is not found as claim limitation in the claim 1. The specification does not describe the angle between two different directions. Moreover, applicant's specification appears to be a literal translation into English from a foreign document and is replete with grammatical and idiomatic errors.

Applicant's specification describes the calculations (1) to (7) as shown in lines 15-19 on Page 20 wherein only the calculation (2) on Page 15 is related to the claim limitation of "a deviation". However, **this deviation is the amount of deviation in the direction of manipulation**. See Fig. 5A, wherein **the amount of deviation is in the direction of manipulation**. The amount of deviation has nothing to do with the **angle** between two different directions, which applicant still persists in arguing that the deviation is an angle deviation. The direction of manipulation is toward the direction of the line AB and this is how the reference point A is manipulated to the destination point B and the content is scrolled. See also lines 26-28 on Page 15. Moreover, in Fig. 5B, the actuator driving signal is a function of distance to the

destination position and therefore the actuator driving signal has nothing to do with the angle between two different directions, as two identical directions are disclosed. The embodiment of Fig. 5C also describes "a deviation" in relation to the variation of distance to the destination position. NO ANGLE between two **different** directions or two different lines has been described. Moreover, the description on lines 1-17 on Page 17 in relation to the Fig. 5C is confusing, as the descriptions appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

The claim limitation "a deviation" set forth in the claim 1 is confusing. The claim language is thus given the broadest reasonable interpretation consistent with the specification, especially the embodiment disclosed in Fig. 5A wherein the amount of deviation in the direction of manipulation is disclosed. During patent examination, the claims are given the broadest reasonable interpretation consistent with the specification. See In re Morris, 127 F.3d 1048, 44USPQ2d 1023 (Fed. Cir. 1997). See MPEP §2111 - § 2116.01 for case law pertinent to claim analysis.

The claim limitation of "a deviation" is interpreted in light of applicant's specification as the amount of deviation in the direction of manipulation (See applicant's Fig. 5A) or in terms of the distance to the destination position (See applicant's Fig. 5B). Applicant's specification has not described anything related to the actuator driving signal as a function the angle, as argued by the applicant.

Rosenberg discloses in column 42-43 that the isometric functions are controlled using the magnitude of deviation in the input force direction of manipulation or using the magnitude of deviation in the direction of the current position of the user object from the local origin.

Rosenberg teaches that the opposing force (force feedback) is a function of displacement and is applied in a direction opposing the deviation of the user object from the local object (column 47).

As set forth in the present Office Action, Rosenberg discloses that, a force magnitude and direction that the user exerts on the interface device is sensed and input to the computer to be used in the manipulation and interaction of the computer environment wherein the isometric controllers such as sensors spheres typically include pressure sensors overlaid on their surface to detect input forces from the user's touch; column 36, lines 50-63. Rosenberg discloses that, a visual display of the deviation may be useful to indicate to the user the magnitude of "force" that is being input by the user in isometric mode. A user will be able to see the deviation as a cursor is moved against a surface, thus indicating the magnitude of the input; column 44, lines 43-61. Finally, Rosenberg discloses that, **a restoring force is determined based on the deviation found** and any other applicable conditions. A restoring force is applied to the user object as well as sensed by the user through feedback because the user feels restoring or spring forces on the object which the user can utilize to provide isometric or elastic input; see column 10, lines 20-25 and column 47, lines 8-46.

Specification

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim 1 set forth the claim limitation of "a deviation between the direction of the destination position as seen from the reference point in the display unit and the direction of manipulation of the manipulation unit". Without reading the specification, the claim limitation is confusing as to what kind of deviation is claimed. The specification describes that the deviation between the two directions is the distance deviation, as opposed to the angle deviation, wherein the two directions are positioned in the same line, as opposed to two distinct lines that form an angle. Applicant's claim 1 recites a deviation, which is the distance deviation. However, the claim language is confusing because it is misleading (without positively claiming that the two directions are positioned in the same line). The deviation as claimed could mean the angle deviation, which is NOT supported by applicant's specification. In view of the specification, Fig. 5A, wherein the amount of deviation in the direction of manipulation is disclosed, however, a deviation between two distinct directions has been argued by applicant in the process of prosecution. Therefore, clarification is required for the claim limitation set forth in the claim 1. It is suggested that the claim 1 should be amended to recite "a deviation between the direction of the destination position as seen from the reference point in the display unit in the direction of manipulation of the manipulation unit" to be consistent with applicant's specification.

The claims 2-6 depend upon the claim 1 and are rejected due to their dependency on the claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Rosenberg U.S. Patent No. 5,825,308 (hereinafter Rosenberg).

Claim 1:

Rosenberg teaches an image information display apparatus comprising:

A display unit for displaying image data; an input unit for performing scrolling of the image data displayed on the display unit; and a control unit for controlling the display unit and the input unit (*e.g., column 4, lines 34-57; column 7, lines 26-49; column 10, lines 6-24; column 12, lines 20-45; column 13, lines 59-67; column 14, lines 1-41; column 34, lines 46-55; column 35, lines 5-21; column 36, lines 50-60; column 39, lines 35-67; column 41, lines 66-67 and column 42, lines 1-67; column 43, lines 1-67; column 44, lines 1-51; column 46, lines 45-55; column 47, lines 8-46*),

wherein the input unit has a manipulation unit manipulated by an operator, a position sensor for detecting a manipulation state of the manipulation unit, and an actuator for supplying

force-feedback to the manipulation unit, wherein the image data includes a prescribed point (*e.g., column 4, lines 34-57; column 7, lines 26-49; column 10, lines 6-24; column 12, lines 20-45; column 13, lines 59-67; column 14, lines 1-41; column 34, lines 46-55; column 35, lines 5-21; column 36, lines 50-60; column 39, lines 35-67; column 41, lines 66-67 and column 42, lines 1-67; column 43, lines 1-67; column 44, lines 1-51; column 46, lines 45-55; column 47, lines 8-46*),

Wherein the control unit calculates an amount and direction of manipulation of the manipulation unit on the basis of positional signals output from the position sensor, and performs the scrolling of the image data on the basis the amount and direction of manipulation of the manipulation unit obtained (*e.g., column 4, lines 34-57; column 7, lines 26-49; column 10, lines 6-24; column 12, lines 20-45; column 13, lines 59-67; column 14, lines 1-41; column 34, lines 46-55; column 35, lines 5-21; column 36, lines 50-60; column 39, lines 35-67; column 41, lines 66-67 and column 42, lines 1-67; column 43, lines 1-67; column 44, lines 1-51; column 46, lines 45-55; column 47, lines 8-46*), and

wherein in the course of scrolling the image data (*e.g., the document image data or a text in a window; column 35, lines 4-10 and column 42, lines 40-50*), the control unit (*e.g., a local microprocessor in a host computer; column 42, lines 18-38*) calculates the **a deviation between the direction the direction of the destination position as seen from the reference point in the display unit** (*e.g., based on the deviations and/or direction from the local origin; column 43, lines 65-66*) and the direction of manipulation of the manipulation unit, and controls drive of the actuator to decrease the force-feedback to be supplied the manipulation unit with a decrease in the calculated **deviation** (*e.g., the force magnitude and direction that the user exerts on the*

*interface device is sensed and input to the computer to be used in the manipulation and interaction of the computer environment wherein the isometric controllers such as sensors spheres typically include pressure sensors overlaid on their surface to detect input forces from the user's touch; column 36, lines 50-63; A visual display of the deviation may be useful to indicate to the user the magnitude of "force" that is being input by the user in isometric mode. A user will be able to see the deviation as a cursor is moved against a surface, thus indicating the magnitude of the input; column 44, lines 43-61; **A restoring force is determined based on the deviation found** and any other applicable conditions. A restoring force is applied to the user object as well as sensed by the user through feedback because the user feels restoring or spring forces on the object which the user can utilize to provide isometric or elastic input; see column 10, lines 20-25 and column 47, lines 8-46. column 4, lines 34-57; column 7, lines 26-49; column 10, lines 6-24; column 12, lines 20-45; column 13, lines 59-67; column 14, lines 1-41; column 34, lines 46-55; column 35, lines 5-21; column 36, lines 50-60; column 39, lines 35-67; column 41, lines 66-67 and column 42, lines 1-67; column 43, lines 1-67; column 44, lines 1-51; column 46, lines 45-55; column 47, lines 8-46).*

Rosenberg discloses in column 42-43 that the isometric functions are controlled using the magnitude of deviation in the input force direction of manipulation or using the magnitude of deviation in the direction of the current position of the user object from the local origin. Rosenberg teaches that the opposing force (force feedback) is a function of displacement and is applied in a direction opposing the deviation of the user object from the local object (column 47).

The specification does not describe the angle between two directions. Applicant's specification describes the calculations (1) to (7) as shown in lines 15-19 on Page 20 wherein only the calculation (2) on Page 15 is related to the claim limitation of "a deviation". However, this deviation is the amount of deviation in the direction of manipulation. See Fig. 5A, wherein the amount of deviation is in the direction of manipulation. The amount of deviation has nothing to do with the angle between two directions. See also lines 26-28 on Page 15. Moreover, in Fig. 5B, the actuator driving signal is a function of distance to the destination position and therefore the actuator driving signal has nothing to do with the angle between two directions. The embodiment of Fig. 5C also describes "a deviation" in relation to the variation of distance to the destination position. NO ANGLE between two directions has been described. Moreover, the description on lines 1-17 on Page 17 in relation to the Fig. 5C is confusing, as the descriptions appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

The claim limitation "a deviation" set forth in the claim 1 is confusing. The claim language is thus given the broadest reasonable interpretation consistent with the specification, especially the embodiment disclosed in Fig. 5A wherein the amount of deviation in the direction of manipulation is disclosed. During patent examination, the claims are given the broadest reasonable interpretation consistent with the specification. See In re Morris, 127 F.3d 1048, 44USPQ2d 1023 (Fed. Cir. 1997). See MPEP §2111 - § 2116.01 for case law pertinent to claim analysis.

The claim limitation of "a deviation" is interpreted in light of applicant's specification as the amount of deviation in the direction of manipulation (See applicant's

Fig. 5A) or in terms of the distance to the destination position (See applicant's Fig. 5B). Applicant's specification has not described anything related to the actuator-driving signal as a function the angle.

Claims 2-3:

Rosenberg further discloses that the control unit calculates a distance from a reference point in the image data corresponding to the reference point in the display unit to the prescribed point, and controls the drive of the actuator to supply to the manipulation unit an appropriate force-feedback corresponding to the calculated distance to the prescribed point and that the control unit calculates the variation of a distance from a reference point in the image data corresponding to the reference point in the display unit to the prescribed point, and controls the drive of the actuator to supply to the manipulation unit an appropriate force-feedback corresponding to the calculated variation of the distance to the prescribed point (*e.g., the force magnitude and direction that the user exerts on the interface device is sensed and input to the computer to be used in the manipulation and interaction of the computer environment wherein the isometric controllers such as sensors spheres typically include pressure sensors overlaid on their surface to detect input forces from the user's touch; column 36, lines 50-63; A visual display of the deviation may be useful to indicate to the user the magnitude of "force" that is being input by the user in isometric mode. A user will be able to see the deviation as a cursor is moved against a surface, thus indicating the magnitude of the input; column 44, lines 43-61; **A restoring force is determined based on the deviation found** and any other applicable conditions.*

A restoring force is applied to the user object as well as sensed by the user through feedback because the user feels restoring or spring forces on the object which the user can utilize to provide isometric or elastic input; see column 10, lines 20-25 and column 47, lines 8-46).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg U.S. Patent No. 5,825,308 (hereinafter Rosenberg) in view of Watanabe et al. U.S. Patent No. 6,285,347 (hereinafter Watanabe).

Claims 4-6:

Rosenberg is silent to the claim limitations set forth in the claims 4-6.

With regards to the claim 4, Watanabe further discloses the prescribed point as a destination point of the map image as specified by the operator scrolling the map image (Watanabe column 5-8).

With regards to the claim 5, Watanabe further discloses the road map image (Watanabe Figs. 3-4).

With regards to the claim 6, Watanabe further discloses the map data is virtual space data expressed two-dimensionally (Watanabe Figs. 3-4).

Moreover, Watanabe discloses supplying feedback information after manipulation of the mouse or the finger on the touch pad on the pointer to indicate the scrolling speed and direction of the digital map when the distance between the start point to an end point relating to the desired direction from the start point to the end point is determined and the speed of the displayed portion of the digital map with regards to the direction of the arrow portion of the pointer is made small when the distance is small. Therefore Watanabe explicitly discloses an actuator such as capacitor sensors (column 4, lines 40-52) to supply feedback (such as the length and direction of the arrow portion) to the manipulation unit using mouse-finger-touch-pad combination (column 6, lines 29-44).

Watanabe discloses that, when the distance between the start point (a reference point) to an end point (a prescribed point) relating to the desired direction from the start point to the end point is determined (i.e., manipulation direction is determined) and the speed of the displayed portion of the digital map with regards to the direction of the arrow portion of the pointer is made small when the distance is small. It can be seen that Watanabe discloses a direction from a reference point in the display unit to the prescribed point in the image data because the start point is in the display unit and the end point is the desired point in the map image. Watanabe further discloses the direction of manipulation of the manipulation unit because the desired direction of manipulation has been indicated by the operator (column 6, lines 29-44) and the amount and direction of manipulation are determined at the current position of the display reference point to indicate the speed and direction of scrolling (column 6, lines 29-44). Depending upon the length of the distance relating to the desired direction of manipulation indicating the deviation or

magnitude of the desired direction from the unit direction of manipulation, the scrolling speed is determined as in proportional to the deviation of the direction vector and the processor allows the actuator to decrease the length of the arrow portion of pointer to supply feedback information to the display unit or the touch pad in combination with the pointer (the manipulation unit because both the touch pad and the pointer have been manipulated via the operator's action; see column 5-8).

Therefore, taking the combined teaching of Watanabe and Rosenberg, it would have been obvious to have modified Rosenberg's document image data or texts in a window to incorporate Watanabe's map image data as document data to be scrolled by the Rosenberg's force feedback device coupled with the host computer system.

Doing so would enable one of the ordinary skill in the art to provide indication to the operator the magnitude or speed or direction of scrolling to be generated on the map image (Watanabe column 5-8).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

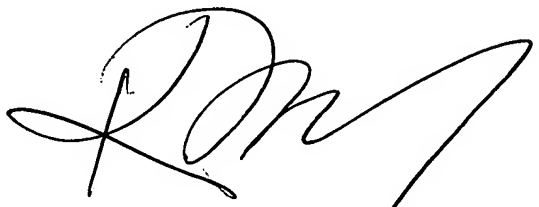
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcw



KEE M. TUNG
SUPERVISORY PATENT EXAMINER